

CLAIMS

What is claimed is:

1. An integrated circuit comprising:
an interface to a bus; and
configuration logic to transmit a query message through the bus and directed at another integrated circuit to query for availability of a hardware feature within the other integrated circuit, and to access the hardware feature within the other integrated circuit if a reply message is received from the other integrated circuit providing an indication of availability of the hardware feature within the other integrated circuit.
2. The integrated circuit of claim 1, wherein the interface is able to be coupled to a point-to-point bus having at least one serial data link across which the query message is transferred in packetized form.
3. The integrated circuit of claim 2, wherein the query message transmitted by the configuration logic is a vendor-specific message conforming to support provided the bus for the transmission of a vendor-specific message.
4. The integrated circuit of claim 1, wherein the hardware feature for which the integrated circuit queries for availability is a DMA controller.
5. The integrated circuit of claim 1, wherein the configuration logic accesses the hardware feature within the other integrated circuit using an address provided by the other integrated circuit within the reply message.

6. The integrated circuit of claim 5, wherein the configuration logic accesses the hardware feature to arbitrate for an opportunity to interact with the hardware feature.
7. The integrated circuit of claim 1, wherein the configuration logic transmits a version number within the query message identifying the version of the integrated circuit.
8. The integrated circuit of claim 1, wherein the configuration logic transmits a version number within the query message identifying the version of the hardware feature that the integrated circuit seeks.
9. An integrated circuit comprising:
 - an interface to a bus;
 - a hardware feature to interact within another integrated circuit across the bus;
 - and
 - configuration logic to receive a query message through the bus and directed at the integrated circuit to query for availability of the hardware feature, and to selectively reply to the query message by transmitting with a reply message providing an indication of availability of the hardware feature.
10. The integrated circuit of claim 9, wherein the interface is able to be coupled to a point-to-point bus having at least one serial data link across which the query and reply messages are transferred in packetized form.
11. The integrated circuit of claim 10, wherein the reply message transmitted by the configuration logic is a vendor-specific message conforming to support provided the bus for the transmission of a vendor-specific message.

12. The integrated circuit of claim 9, wherein the hardware feature for which the other integrated circuit queries for availability is a DMA controller.

13. The integrated circuit of claim 9, wherein the configuration logic provides an address within the reply message that the other integrated circuit could use to access the hardware feature.

14. The integrated circuit of claim 13, wherein the hardware feature supports being accessed by the other integrated circuit to arbitrate for an opportunity to interact with the hardware feature.

15. The integrated circuit of claim 9, wherein the configuration logic transmits a version number within the reply message identifying the version of the hardware feature.

16. The integrated circuit of claim 9, wherein the configuration logic transmits a version number within the reply message identifying a version of the hardware feature that the hardware feature within the integrated circuit mimics.

17. An electronic device comprising:

a bus;

a device coupled to the bus having a first configuration logic to carry out a query transaction on the bus to query for the availability of a hardware feature;

a system logic having the hardware feature, and having a second configuration logic to receive the query transaction and to selectively respond with an indication of availability of the hardware feature; and

a processor coupled to the system logic.

18. The electronic system of claim 17, wherein the bus supports the transfer of a vendor-defined message, and the query transaction is a vendor-defined query message transmitted across the bus.

19. The electronic system of claim 18, wherein the bus is a point-to-point bus having at least one serial data link across which the query message is transferred in packetized form.

20. The electronic system of claim 18, wherein the first configuration logic transmits a version number within the query message indicating the version of the hardware feature that the device is able to interact with.

21. The electronic system of claim 18, wherein the second configuration logic receives a version number within the query message from the first configuration logic that the second configuration logic analyzes to determine whether to respond to the query message.

22. The electronic system of claim 18, wherein the first configuration logic transmits a code identifying a vendor within the query message from the first configuration logic that the second configuration logic analyzes to determine whether to respond to the query message.

23. The electronic system of claim 17, wherein the bus supports the transfer of a vendor-defined message, and the second configuration logic responds to the query transaction with a vendor-defined reply message transmitted across the bus.

24. The electronic system of claim 23, wherein the bus is a point-to-point bus having at least one serial data link across which the reply message is transferred in packetized form.

25. The electronic system of claim 23, wherein the second configuration logic transmits a version number within the reply message indicating the version of the hardware feature that the system logic possesses.

26. The electronic system of claim 23, wherein the first configuration logic receives a version number within the reply message from the second configuration logic that the first configuration logic analyzes to determine whether to interact with the hardware feature.

27. The electronic system of claim 17, wherein the bus is one of a plurality of buses organized into a branching tree-like structure with the system logic at the base tree and designated as the root complex.

28. The electronic system of claim 27, wherein the system logic is coupled to the bus, the bus supports the transfer of a message as the query transaction to query for the hardware feature, and the message is directed to the system logic through an indication provided in the message that the message is directed to the device on the other end of whichever bus is coupled to the device that leads towards the root complex.

29. The electronic system of claim 27, wherein the bus supports the transfer of a message as the query transaction to query for the hardware feature, and the message is directed to the system logic through an indication provided in the message that the message is directed to a device at the root complex.

30. A method comprising:

transmitting a query message by logic within a first device across a bus to a second device to query for the availability of a hardware feature within the second device;

receiving the query message by logic within the second device; and

selectively responding by the logic within the second device to the query message by transmitting a reply message providing an indication of availability of the hardware feature within the second device.

31. The method of claim 30, further comprising:

transmitting a version number within the query message indicating the version of the hardware feature that the first device seeks to interact with; and

analyzing by the logic within second device of the version number transmitted within the query message to determine whether to transmit the reply message in response.

32. The method of claim 30, further comprising:

transmitting a code identifying a vendor within the query message indicating the version of the hardware feature that the first device seeks to interact with; and

analyzing by the logic within the second device of the code identifying the vendor transmitted within the query message to determine whether to transmit the reply message in response.

33. The method of claim 30, further comprising:

transmitting a version number within the reply message indicating the version of the hardware feature possessed by the second device; and

analyzing by the logic within the first device of the version number transmitted within the reply message to determine whether to interact with the hardware feature.

34. The method of claim 30, further comprising transmitting by the logic within the second device of an address within the reply message to the logic within the first device, the address specifying an address location at which the hardware feature is accessible.

35. The method of claim 33, further comprising arbitrating by the logic within the first device to gain an opportunity to interact with the hardware feature within the second device if the determination is made to interact with the hardware feature.